all day

broome technical community college

CATALOG

1959-1960

BINGHAMTON, NEW YORK

Broome Technical Community College

BINGHAMTON, NEW YORK

CATALOG

1959-1960

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CALENDAR 1958-1959

FALL TERM

September 2, 1958	8:00 A. M.	Freshman Registration and Start Cooperative Period
September 3, 1958	12:30 P. M.	Freshman Orientation
September 4, 1958	8:00 A. M.	Senior Registration and Continue Orientation
September 5, 1958	8:00 A. M.	Classes Begin
November 26, 1958	12:00 Noon	Fall Term Ends
November 28, 1958		Cooperative Period Ends

WINTER TERM

December 1, 1958	8:00 A. M.	Registration and Start Cooperative Period
December 23, 1958	5:00 P. M.	Christmas Recess Begins
January 5, 1959	8:00 A. M.	Christmas Recess Ends
March 5, 1959	5:00 P. M.	Winter Term Ends
March 6, 1959		Cooperative Period Ends

SPRING TERM

March 9, 1959	8:00 A. M.	Registration and Start Cooperative Period
March 26, 1959	5:00 P. M.	Easter Recess Begins
March 31, 1959	8:00 A. M.	Easter Recess Ends
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June 6, 1959	2:00 P. M.	Graduation

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June 8, 1959	8:00 A. M.	Registration and Start Cooperative Period
July 2, 1959	5:00 P. M.	Independence Day Recess Begins
July 6, 1959	8:00 A. M.	Independence Day Recess Ends
August 28, 1959	5:00 P. M.	Summer Terms Ends
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CALENDAR 1959-1960

FALL TERM

September 8, 1959	8:00 A. M.	Freshman Registration and Start Cooperative Period
September 9, 1959	12:30 P. M.	Freshman Orientation
September 10, 1959	8:00 A. M.	Senior Registration and Continue Orientation
September 11, 1959	8:00 A. M.	Classes Begin
November 25, 1959	12:00 Noon	Thanksgiving Recess Begins
November 30, 1959	8:00 A. M.	Thanksgiving Recess Ends
December 3, 1959	5:00 P. M.	Fall Term Ends
December 4, 1959		Cooperative Period Ends

WINTER TERM

December 7, 1959	8:00 A. M.	Registration and Start Cooperative Period
December 23, 1959	5:00 P. M.	Christmas Recess Begins
January 4, 1960	8:00 A. M.	Christmas Recess Ends
March 10, 1960	5:00 P. M.	Winter Term Ends
March 11, 1960		Cooperative Period Ends

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March 14, 1960	8:00 A. M.	Registration and Start Cooperative Period
April 14, 1960	5:00 P. M.	Easter Recess Begins
April 19, 1960	8:00 A. M.	Easter Recess Ends
May 27, 1960	5:00 P. M.	Decoration Day Recess Begins
May 31, 1960	8:00 A. M.	Decoration Day Recess Ends
June 9, 1960	5:00 P. M.	Spring Term Ends
June 10, 1960		Cooperative Period Ends
June 11, 1960	2:00 P. M.	Graduation

SUMMER TERM

June 13, 1960	8:00 A. M.	Registration and Start Cooperative Period
July 1, 1960	5:00 P. M.	Independence Day Recess Begins
July 5, 1960	8:00 A. M.	Independence Day Recess Ends
September 1, 1960	5:00 P. M.	Summer Term Ends
September 2, 1960		Cooperative Period Ends

STATE UNIVERSITY OF NEW YORK

Broome Technical Community College is part of the world's largest campus—the 49,576 square miles bounding the State University of New York, which was established by the State Legislature in 1948. State University now comprises forty-two colleges. Twenty-eight of them are state-operated and fourteen are locally sponsored Community Colleges. While separated geographically, all are united in the purpose to improve and extend opportunities for youth to continue their education after high school.

State University offers cultural and professional four-year programs in liberal arts, home economics, industrial and labor relations, veterinary medicine, ceramics, agriculture, forestry, maritime service, medicine and teacher preparation, as well as two-year programs in a wide variety of fields, including technical courses in agricultural, industrial, health and service areas. Several of its colleges offer graduate programs.

Governed by a Board of Trustees appointed by the Governor, State University of New York plans for the total development of State-supported higher education. Each College of State University is locally administered, and students apply directly to the institution for admission.

Although State University of New York is the second largest state university in the country, its students have the additional advantages of attending small colleges.

The State University motto is: "Let each become all he is capable of being."

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THE COMMUNITY COLLEGE
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ADMISSION
GENERAL INFORMATION

THE COMMUNITY COLLEGE

Broome Tech is a two-year, co-educational community college. Throughout the nation community colleges or junior colleges have had a remarkable growth in recent years, from fewer than 75,000 students in 1930 to more than 750,000 in 1955. The reason for this expansion may be seen as we look at the nature and purposes of Broome Technical Community College.

1. It seeks to provide, through its full-time day program and its part-time Extension Division, educational opportunities for all who can benefit by them. The full-time day curricula combine general education with technical education to prepare young people for permanent employment after graduation. These curricula also provide the background necessary for continued education.

The Extension Division offers both a wide variety of specialized unit courses and sequential programs leading either to a diploma or the Associate Degree.

2. It provides low-cost education. Rising tuition fees are barring many a promising high school graduate from attaining his goal. The relatively small tuition fee at Broome Tech removes the financial barrier for many, particularly with the generous aid now available in the form of scholarships, grants-in-aid, and loans from the college's Student Aid Association. (See pages 20-22) Furthermore, by "bringing the college to the people," the student can live at home and save the cost of room and board. Approximately two-thirds of Broome Tech students live within commuting distance.

3. It is community-focused. This means several things. First, operating costs are shared three ways: one-third by student tuition; one-third by the State; and one-third by Broome County and other counties from which a student may come. Second, the curricula are geared to the needs of the area, and the community shares in the curriculum development by means of advisory committees. Third, Broome Tech — aside from its educational functions — serves the community by making available its faculty, library, and other facilities for the group welfare. Fourth, the college is administered by a local Board of Trustees.

THE CAMPUS

Broome County, an industrial and agricultural area, is in the Southern Tier of New York State. Its industries are largely concentrated in the population centers of Binghamton, Johnson City, Endicott and Vestal, together forming a community well known for its economic stability and community spirit.

The products of the major industries manufacturing shoes, business machines, cameras and photographic supplies, and aircraft trainers and components are known the world over. Smaller industries turn out hundreds of diversified products. The combination of "big town" features with "small town" atmosphere makes the area an ideal one in which to work and live. The college is fortunate in its location and is proud to make its contribution to the community.

The new campus of Broome Technical Community College is located three miles north of Binghamton on U. S. Routes 11 and 12. Here in a suburban setting a $3,000,000 plant has been constructed to serve the educational needs of the community. The campus consists of six buildings of modern functional design, an athletic field, and ample parking space.

ADMINISTRATION BUILDING — offices, library, business education, general education

MECHANICAL BUILDING—laboratories, shops, classrooms for mechanical, automotive and construction technology

GYMNASIUM-STUDENT SERVICE CENTER—gymnasium, cafeteria, book store, student lounge, activities rooms, little theater auditorium, small corrective gym

ELECTRICAL TECHNOLOGY BUILDING — laboratories, shops, classrooms

SCIENCE BUILDING—laboratories, classrooms for chemical technology, medical office assistants, dental hygiene, and engineering physics

MAINTENANCE BUILDING

ADMISSION

Entrance requirements:

A high school diploma or the equivalent is required for entrance to all curriculums. All applicants must take the college test program and appear for a personal interview.

In addition, an applicant must meet the minimum requirements of physical ability required by the occupational field in which he wishes to engage. He must also be recommended by his high school principal or guidance counselor.

In planning for college, it is advisable that the high school student enroll in a college preparatory curriculum. The following table should help in planning a high school program.

CURRICULUM	RECOMMENDED HIGH SCHOOL SUBJECTS	OTHER DESIRABLE HIGH SCHOOL SUBJECTS
Business	2 units Mathematics including Business Mathematics, 2 units of Science including General Science	Shorthand and typing will qualify the student for advanced college-level work
Chemical	2½ units Mathematics or through Intermediate Algebra, Chemistry	Physics, Other Advanced Mathematics
Construction	2½ units Mathematics or through Intermediate Algebra, Physics	Trigonometry, Other Advanced Mathematics
Dental Hygiene*	2 units Mathematics, Biology, Chemistry	Social Studies
Electrical	2½ units Mathematics or through Intermediate Algebra, Physics	Trigonometry, Other Advanced Mathematics
Engineering Physics	3½ units in Mathematcis and 4 units in Science	College preparatory English and foreign language
Mechanical	2½ units Mathematics or through Intermediate Algebra, Physics	Trigonometry, Other Advanced Mathematics
Medical Office Assistant	2 units Mathematics, Biology, Chemistry	Typing, Shorthand

* Applicants for Dental Hygiene are required to take the Dental Hygiene Aptitude Tests of the American Dental Association. Information will be sent following receipt of application for admission to the college.

Applicants who do not satisfactorily meet the entrance requirements may apply for entrance to the Pre-Technical program described on page 83. This preparatory year program, under the direction of the Extension Division, provides opportunity for the student to strengthen his academic background so that he may enter the full-time program with a better expectation of successful accomplishment.

Application Procedure

New students are admitted only in September of each year. However, applications will be accepted at any time during the year.

An application for admission must be made on official forms supplied on request by the Admissions Office.

A deposit of $10 must accompany each application. The deposit is non-refundable but is applied as an advance payment on the student activity fee if the application is accepted. Once a student is accepted, he will be billed for an advance payment of $50 on tuition. This is also non-refundable for those not reporting for the fall term.

Each applicant will be interviewed by members of the Committee on Admissions. An appointment will be made after the applicant's deposit, application and other required credentials have been received. Appointments for interviews will normally be made after January 1st of each year.

Applicants for Dental Hygiene must have taken the Dental Hygiene Aptitude tests and must have forwarded the results to the Admissions Office prior to personal interviews. Information concerning these tests may be obtained from the Admissions Office.

Advanced Standing Students

Applications are accepted from students who have been enrolled in other accredited colleges if they meet satisfactory entrance requirements.

Transfer of credit for advanced standing is subject to the approval of the Department Head and the Dean.

Consideration will not be given to any subject for transfer credit which carries a grade of less than "C".

At the time of application, students wishing to transfer credit should request the registrar of the college they have attended to forward an official transcript to the Broome Tech Admissions Office.

Late Registration

An applicant may not register later than seven days after the beginning of the Fall term except by special permission.

GENERAL INFORMATION

EXPENSES

Tuition

For New York State residents _____ $300.00 per year
(payable at the rate of $100.00 per term)
For out-of-state residents _____ $600.00 per year
(payable at the rate of $200.00 per term)

Fees

Tuition and fees are payable at the Finance Office not later than the last day of the first week of each term. Any refund is at the option of the College. The College reserves the right to change the following fees.

Student activity _____ $28.00 per year*
Health _____ $19.00 per year
Graduation _____ $10.00§
Late registration _____ $ 5.00

* The $10.00 deposit required with the application becomes advance payment on the activity fee if the applicant is accepted.
§ This fee is paid at the start of the term preceding graduation.

Books and Supplies

Each student provides at his own expense the necessary books and instructional materials. These may be purchased at the Book Store maintained by the Faculty-Student Association for the convenience of the students. The cost varies, depending on the curriculum, from $30.00 to $125.00 per year.

Board and Room

The cost of board and room for out-of-town students is dependent upon the demands of the student. The average cost varies from $15.00 to $20.00 a week.

Living Accommodations

The college does not maintain dormitories. Local students of course live at home. Other students are required to live in rooms which have been inspected and approved, or at the Y. M. C. A. or Y. W. C. A. Lists of approved rooms are maintained and students are assisted in finding suitable living quarters.

Length of Curriculum

All programs are two years in length. The college year is divided into four terms of approximately thirteen weeks each. Students enrolled in the cooperative work curriculums—Electrical Technology and Mechanical Technology—spend a total of five terms on campus and two terms in industry. Students in the six-term curriculums spend three terms on campus each year.

Cooperative Work Program

In the work-study plan students are placed in jobs related to their major field of study for two separate employment periods. Students are paid the prevailing wages for the job they do. Cooperative students in the technology curriculums average $1,400 for the two periods.

The program offers other distinct advantages:

1. It is exploratory. The student has a chance to survey and evaluate a number of different jobs within his field. At the same time he can take stock of his own abilities and interests.
2. It is an opportunity to correlate classroom studies with actual work experience.
3. It is a means of demonstrating the importance of human relations in the work situation.

Cooperative work students are expected to "earn their own way", to perform the duties required without special favor. At the end of each period employers submit a report covering the student's performance. These reports become a part of the student's permanent record.

FINANCIAL AID

Many young people are denied the advantages of higher education because of the costs. Broome Technical Community College has made a sincere effort to overcome these economic barriers through its Student Aid Association, which in cooperation with industries and organizations in Broome County, has established both a Scholarship Fund and a Loan Fund.

Scholarships

Nearly fifty scholarships and grants-in-aid of about $200 each have been established to recognize outstanding scholarship and/or financial need of applicants to Broome Technical Community College. These are awarded primarily to entering freshman students to help defray most or all of the first term's expenses. Students may apply for these grants at the time of making application for entrance to the college.

Following are contributors to the unrestricted scholarship fund:

Ansco Division of General Aniline & Film Corporation
The Azon Corporation
The Binghamton Savings Bank
Binghamton Container Company, Inc.
Binghamton Precision Tool Company
Broome Technical Community College Business Club
Cadre Industries Corporation
Chernin & Gold, Attorneys
Clark-Cleveland, Incorporated (Chemical Technology curriculum)
Crowley's Milk Company
Endicott Forging & Manufacturing Company
Endicott Johnson Corporation
Fairbanks Company
First-City National Bank
International Business Machines Corporation
Junior League of Binghamton
Link Aviation Corporation
Marine Midland Trust Company
McIntosh Laboratory Incorporated
National Office Management Association, Triple Cities Chapter
New York State Electric & Gas Corporation
Scintilla Division, Bendix Aviation Corporation
Stow Manufacturing Company
E. H. Titchener & Company
Universal Instruments Corporation

Following are contributors to the restricted scholarship fund:

Associated Building Contractors of the Triple Cities Scholarship. One Scholarship of $200.00 to be awarded to a student entering the Construction Technology curriculum.

Binghamton Chapter, National Secretaries Association Scholarship. Established in 1954, one scholarship of $200.00 to be awarded to a graduate of one of the Triple Cities high schools entering the Business Technology curriculum. Recipient to be judged on the basis of scholastic ability, character, personality and financial need.

Binghamton Optimists' Club Scholarship. Since 1957, two $150.00 scholarships have been awarded to boys with athletic and academic ability.

Civic Club of Binghamton Award. Established in 1953, an award of $125.00 is given to one to three young women graduating from one of the Binghamton high schools, wishing to enter the College.

Morris E. Blair Award. One scholarship of $300.00—$200.00 of which is to be given the first year and $100.00 the second year, to a student entering either the Electrical or Mechanical Technology curriculum.

National Association of Accountants Scholarship. One scholarship of $200.00 to be awarded to a scholastically qualified student majoring in general business administration and accounting. Student should reside in Broome, Chenango or Tioga County.

Rappaport Freshman Scholarship. One scholarship of $200.00 to be given to a worthy student graduating from the Chenango Valley Central School.

Technical and Engineering Council of the Southern New York Area Scholarship. One scholarship of $200.00 to be awarded to a student who is outstanding in mathematics and science.

Triple Cities Business and Professional Women's Club Award. Established in 1954, an award of $100.00 is given to one or two young women entering the College in the Medical Office Assistant or Business Technology curriculum. Recipient is selected from the graduates of schools in the Triple Cities area.

In addition to the above, recipients of New York State Regents Scholarships may use their scholarships at the College.

Student Loan Fund

After the student has satisfactorily completed the first term of college work, he is eligible for a loan from this fund. He may borrow up to $250.00 per year. No interest is charged until he graduates or terminates. Repayment of the loan starts 60 days after this date.

In addition, the State Legislature has established the New York State Higher Education Assistance Corporation which will guarantee loans from banks participating in this program. Students can borrow up to $500.00 their first year of college and $750 the second year. Repayment of the loan starts three months after the student graduates or terminates and can be extended over a six-year period.

Small emergency loans are also available to deserving students at the College who are in temporary need of financial assistance.

More information may be obtained from the Director of Admissions.

Employment and Placement

Each Department Head is in charge of cooperative and permanent placement for the students in his department. The demand for Broome Tech graduates is consistently greater than the supply, and most seniors have several employment offers from which to choose.

Part-time work is often available throughout the academic year. Students in need of such work should consult with the Dean.

After Graduation

Each graduate is entitled to two transcripts of his work completed at the College. One dollar is charged for each additional transcript.

Graduates are eligible for membership in the Broome Tech Alumni Association. Two annual events highlight the Association's Activities: Spring Day, featuring an Alumni-Varsity baseball game and a picnic, and late in November a dinner, election of officers, and an Alumni-Varsity basketball game.

Graduates who are working nearby are urged to take advanced courses offered in the Evening Extension Division.

Veterans

All full-time curriculums are approved by the Veterans Administration. Those applicants wishing to obtain government educational benefits should consult their nearest veteran agency.

ACADEMIC STANDARDS

ACADEMIC REGULATIONS

CO-CURRICULAR ACTIVITIES

ACADEMIC STANDARDS AND REGULATIONS

Grading System

Grade	Honor Points Per Credit Hour
A	4
B	3
C	2
D	1
P	0
F	0

A—Outstanding
Exceptional ability. Accomplishment and initiative merit special recognition.

B—Good
Above average in accomplishment and responsibility.

C—Satisfactory
Average in accomplishment and responsibility.

D—Fair
Below average in accomplishment and responsibility.

P—Poor
Accomplishments unsatisfactory for honor points but sufficient to form basis for future work.

F—Failing
Accomplisment insufficient to form basis for future work.

Scholastic Standing

To remain in satisfactory standing, a student must earn a point average of 1.2 the first term, 1.4 the second term, 1.5 the third term, and 1.5 for each succeeding term until graduation.

In order for a student to remain in good standing he must also demonstrate a mature attitude of interest and cooperation.

Grades are issued at the end of each term. All students doing unsatisfactory work at midterm will be counseled.

Any student who does not maintain this minimum point average in any term is placed on probation for the following "on campus" term.

Honors

At the end of each term students who have earned an average of 3.0 or above are placed on the Honor Roll. Those who have earned 3.5 or better are named to the President's High Honor List.

Attendance Regulations

Every student is expected to attend all sessions of classes and laboratory work for which he is registered, and all absences and tardiness will be recorded. However, students in good standing will be allowed a prescribed number of absences (as explained completely in the Student Handbook) before academic disciplinary action is taken.

Attendance regulations do not apply to students who are on the President's High Honor List during the preceding term.

Dismissal

Students may be considered for dismissal for the following causes: more than one consecutive probationary period, failure to earn a point average of 0.8 the first term, 0.9 the second term, and 1.0 for each succeeding term; irregular attendance; neglect of work or financial obligations; failure to comply with college rules and official notices; conduct unbecoming a student.

Any action leading to the requested withdrawal of a student is taken up by the Executive Committee. A student may be readmitted by favorable action of the Committee. The College reserves the right to be the sole judge in all matters pertaining to dismissal.

Withdrawal

A student compelled to withdraw at any time must immediately notify the Dean's Office and complete the proper termination form. Failure to comply with this regulation will cause the individual to forfeit his right to honorable dismissal and to lose any refund of fees.

CO-CURRICULAR ACTIVITIES

The College recognizes that students need the stimulus and diversion of co-curricular activities and that students themselves should originate and carry out a varied and flexible program under faculty supervision. Every student is urged to make his contribution to and derive his benefits from one or more of the following activities.

Student Council

The student governing body is the Student Council with officers elected from the student body at large, and representatives from the various curriculums. It has the responsibility of promoting and co-ordinating student affairs. It authorizes the establishment of new clubs and activities and allocates to the organizations funds paid by the students as the Activity Fee. This fee entitles students to admission to varsity games, informal dances and parties, and a subscription to the yearbook and Tech Talk, student newspaper.

Athletic Committee

The Athletic Committee supervises the expenditure of money for athletic purposes and makes recommendations for improvements in the sports program.

Varsity Sports

The name "Hornets" has become well known in Eastern intercollegiate sports. Varsity sports are basketball, baseball, bowling, volleyball, soccer, golf, and cross country. The basketball, baseball and golf teams have been particularly successful in competition against other two-year colleges. The varsity volleyball team, more recently organized, is coming to be recognized as a power in intercollegiate and tournament play.

Intramural Sports

Students of average athletic ability have an opportunity to participate in intramural sports. Teams representing the various curriculums make up the leagues in basketball, volleyball, bowling, softball and touch football. Students also have an opportunity to play individual sports such as golf, badminton, archery, and skiing.

Cheerleaders

Positions on the varsity and junior varsity cheerleading squads are open to both men and women on a competitive basis.

Social Committee

The Social Committee has charge of planning dances, parties and picnics. Most of the affairs are informal and are held in the Student Center Building.

Convocation Committee

A joint student-faculty committee has the responsibility of planning the convocation programs.

Publications

Tech Talk is the student newspaper published once a month and devoted to the reporting of news and features of College life. The yearbook is known as the Citadel. Positions on both publications are open to students interested in writing, art and advertising.

Music

Musically inclined students have ample opportunity to participate in a variety of activities. The College Choir, open to both men and women, and the Tech Tone Masters, an all-male group, give concerts at the College and in the community. The Student Council also sponsors a dance band and a concert band when talent is available.

Camera Club

For those interested in photography the Camera Club provides the chance to get experience in picture taking, developing, printing and enlarging. A well-equipped darkroom is available for student use. Most of the photographic work on the newspaper and yearbook is done by members of the club under faculty supervision.

Business Club

The purpose of the Business Club is to acquaint the community with the work of the Business Technology Department and to acquaint students with the businesses and industries of the area. The club is an affiliate of the Triple Cities Chapter, National Office Management Association.

Newman Club

The Newman Club is an informal group organized to foster a better understanding of Catholic ideology. The program features religious lectures and discussions, and social events.

Inter-Varsity Christian Fellowship

Most college and university campuses throughout the country have chapters of this group, and Broome Tech is no exception.

Through Christian experience with others of a like faith, students' spiritual life can be deepened and strengthened, so Inter-Varsity meets in school, in student homes, and faculty homes to provide these experiences.

Awards

Outstanding participation in the above activities is recognized by a system of awards consisting of blazers, jackets, letters, pins, and certificates.

Technical Societies

Since many meetings of national technical societies are held on campus, students in the technology curriculums have the opportunity of becoming acquainted with professional men in their field and of attending outstanding lectures, films, and demonstrations of new developments.

For example, Chemical Technology students are invited to attend local meetings of the American Chemical Society while students in Electrical Technology may belong to a student associate branch of the Institute of Radio Engineers.

Faculty-Student Association

This is a non-profit organization, incorporated under the laws of New York State, operated by faculty officers with a student advisory board. The association operates the book store, cafeteria, vending machines and pay telephones.

CURRICULUM OUTLINES

BUSINESS TECHNOLOGY

This department prepares people in three general areas:

Engineering Secretarial
Office Administration—Accounting
Office Administration—Sales

The programs, which are almost identical in the first year, were planned with the assistance of engineers, engineers' secretaries, businessmen, comptrollers, auditors, sales managers, office managers, and machine accountants. Though terminal in nature, these two-year programs have made it possible for some graduates to continue in Business Administration or Business Education. The options, which apply mostly to the second year, lead to the following types of positions:

Engineering Secretarial. Graduates are employed usually as stenographer-secretaries, technical secretaries, and a few as private secretaries. They are in demand where engineers and other technical personnel find a need for secretarial help who can understand the specialized language of Electrical, Mechanical, or Chemical Engineering. These graduates, since they have received a background of science and engineering terminology in addition to their business background, are admirably prepared to work with engineering reports, records, and correspondence.

Office Administration—Accounting. The specialization of these students involves extra work in Cost Accounting, Internal Auditing, Machine Accounting, and Federal Tax. Thus, their entering positions are usually those of Cost Clerk, Accounting Clerk, Payroll Clerk, Tabulating Machine Operator. Their training plus further experience should prepare them to become Office Managers, Accounting Supervisors, or Machine Accounting Supervisors.

Office Administration—Sales. People selecting this option should be suited by interest and personality to be salesmen. They should like working with people and should possess good powers of persuasion. Positions are found usually in sales of services, in industrial sales, and in equipment sales. Some graduates have entered management training programs offered by the large variety stores and the major oil companies.

CURRICULUM OUTLINE

BUSINESS TECHNOLOGY

Engineering Secretarial Option

	1st YEAR	Hours Per Week Class	Lab	Credits
Term 1 (Fall)				
71	Communication Skills	3	0	3
601	Typewriting	0	5	2
604	Shorthand	5	0	3
610	Business Mathematics	3	0	3
630	Mechanical Drawing	0	3	1
640	Accounting	3	0	3
648	Survey of Business	3	0	3
		17	8	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
91	Psychology	3	0	3
602	Typewriting	0	5	2
605	Shorthand	5	0	3
611	Business Mathematics	3	0	3
620	Science	2	2	3
641	Accounting	3	0	3
		19	7	20
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
92	Economics	3	0	3
603	Advanced Typewriting	0	5	3
606	Advanced Shorthand	5	0	3
621	Elements of Technology	2	2	3
642	Accounting	3	0	3
		16	7	18
	2nd YEAR			
Term 4 (Fall)				
607	Transcription	2	3	3
622	Elements of Technology	2	2	3
645	Principles of Machine Accounting	3	0	3
654	Payroll and Social Security	3	0	3
658	Business Law	3	0	3
691	Personnel Administration	3	0	3
		16	5	18
Term 5 (Winter)				
75	Effective Speaking	3	0	3
94	Sociology	3	0	3
608	Technical Shorthand	2	3	3
624	Shop	1	3	2
656	Office Practice	2	4	4
659	Business Law	3	0	3
		14	10	18
Term 6 (Spring)				
609	Technical Shorthand	2	3	3
625	Shop	1	3	2
657	Office Practice	2	4	4
675	Business English	3	0	3
695	Industrial Organization and Management	3	0	3
	Elective	3	0	3
		14	10	18

CURRICULUM OUTLINE

BUSINESS TECHNOLOGY

Office Administration (Accounting Option)

	1st YEAR	Hours Per Week		
Term 1 (Fall)		Class	Lab	Credits
71	Communication Skills	3	0	3
601	Typewriting	0	5	2
610	Business Mathematics	3	0	3
630	Mechanical Drawing	0	3	1
640	Accounting	3	0	3
648	Survey of Business	3	0	3
		12	8	15
Term 2 (Winter)				
72	Communication Skills	3	0	3
91	Psychology	3	0	3
602	Typewriting	0	5	2
611	Business Mathematics	3	0	3
620	Science	2	2	3
641	Accounting	3	0	3
		14	7	17
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
92	Economics	3	0	3
603	Advanced Typewriting	0	5	3
615	Business Statistics	3	0	3
642	Accounting	3	0	3
652	Finance	3	0	3
		15	5	18
	2nd YEAR			
Term 4 (Fall)				
643	Cost Accounting	3	0	3
645	Principles of Machine Accounting	3	0	3
654	Payroll and Social Security	3	0	3
656	Office Practice	2	4	4
658	Business Law	3	0	3
691	Personnel Administration	3	0	3
		17	4	19
Term 5 (Winter)				
644	Cost Accounting	3	0	3
647	Tabulating Machine Wiring	3	0	3
657	Office Practice	2	4	4
659	Business Law	3	0	3
660	Federal Tax	3	0	3
661	Office Management	3	0	3
		17	4	19
Term 6 (Spring)				
75	Effective Speaking	3	0	3
94	Sociology	3	0	3
646	Machine Accounting	3	0	3
662	Office Management	3	0	3
669	Internal Auditing	3	0	3
675	Business English	3	0	3
695	Industrial Organization and Management	3	0	3
		21	0	21

CURRICULUM OUTLINE

BUSINESS TECHNOLOGY

Office Administration (Sales Option)

	1st YEAR	Hours Per Week		
Term 1 (Fall)		Class	Lab	Credits
71	Communication Skills	3	0	3
601	Typewriting	0	5	2
610	Business Mathematics	3	0	3
630	Mechanical Drawing	0	3	1
640	Accounting	3	0	3
648	Survey of Business	3	0	3
		12	8	15
Term 2 (Winter)				
72	Communication Skills	3	0	3
91	Psychology	3	0	3
602	Typewriting	0	5	2
611	Business Mathematics	3	0	3
620	Science	2	2	3
641	Accounting	3	0	3
		14	7	17
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
92	Economics	3	0	3
603	Advanced Typewriting	0	5	3
615	Business Statistics	3	0	3
642	Accounting	3	0	3
664	Principles of Marketing	3	0	3
		15	5	18
	2nd YEAR			
Term 4 (Fall)				
643	Cost Accounting	3	0	3
650	Salesmanship	3	0	3
658	Business Law	3	0	3
666	Principles of Credit	3	0	3
667	Advertising Principles	3	0	3
691	Personnel Administration	3	0	3
		18	0	18
Term 5 (Winter)				
75	Effective Speaking	3	0	3
651	Sales Management	3	0	3
656	Office Practice	2	4	4
659	Business Law	3	0	3
661	Office Management	3	0	3
668	Advertising Principles	3	0	3
		17	4	19
Term 6 (Spring)				
94	Sociology	3	0	3
657	Office Practice	2	4	4
662	Office Management	3	0	3
673	Market Research	3	0	3
675	Business English	3	0	3
695	Industrial Organization and Management	3	0	3
		17	4	19

CHEMICAL TECHNOLOGY

FORTUNE magazine predicts that this will be known as "The Chemical Century." The distinguishing mark of the age is a basically new form of manufacture. The early part of the century was dominated by the fabrication of existing materials by mass production methods; however, in the latter part of the century chemical processes are creating new materials. Chemical technology has moved so fast that this industry accounts for about a fifth of the total national products.

There is one dark cloud on the horizon for the chemical industry: the lack of trained personnel. CHEMICAL ENGINEERING reports, "The industry enters a new era in which the shortage of technical men will be a major controlling factor—if not limiting factor—in any future expansion plans." Among the workers needed are technicians who are capable of filling responsible positions in research, development and testing laboratories, in pilot plants and production.

The Chemical Technology curriculum at Broome Technical Community College is designed to prepare ambitious and reliable young men and women as technicians in this fast-growing industry.

CURRICULUM OUTLINE

CHEMICAL TECHNOLOGY

1st YEAR

		Hours Per Week		
Term 1 (Fall)		**Class**	**Lab**	**Credits**
71	Communication Skills	3	0	3
101	Mathematics	4	0	4
127	Physics	3	2	4
230	Engineering Drawing	0	3	1
240	General Chemistry	4	3	5
		14	8	17
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
128	Physics	3	2	4
231	Engineering Drawing	0	3	1
241	General Chemistry	3	3	4
261	Library	2	0	2
		15	8	18
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	4
129	Physics	3	2	4
242	Chemistry (Qualitative)	2	4	3
250	Chemistry (Organic)	4	6	6
		16	12	20

2nd YEAR

Term 4 (Fall)				
91	Psychology	3	0	3
216	Statistics	3	0	3
243	Chemistry (Quantitative)	3	6	5
251	Chemistry (Organic)	4	6	6
255	Chemistry (Industrial)	2	0	2
		15	12	19
Term 5 (Winter)				
	Elective	3	0	3
94	Sociology	3	0	3
244	Chemistry (Quantitative)	3	6	5
247	Instrumental Analysis	3	6	5
256	Chemistry (Industrial)	3	3	4
		15	15	20
Term 6 (Spring)				
93	Economics	3	0	3
248	Instrumental Analysis	3	6	5
254	Chemistry (Inorganic)	2	0	2
257	Chemistry (Industrial)	3	6	5
296	Industrial and Labor Relations	3	0	3
		14	12	18

DENTAL HYGIENE

The demand for medical and dental service in the United States is increasing steadily because of the rapid growth of the population and the greater recognition of the need for health services by the individual and society. Today more than one million people in the United States are employed in some type of medical or health service; of these almost 60% are women.

Since World War II there has been a growing demand for young women trained as dental hygienists. The services of these technicians are invaluable, permitting dentists to increase their own efficiency and to extend their services to more patients.

The Dental Hygiene curriculum includes a well-rounded program of general education, the basic sciences related to oral hygiene, and dental office and laboratory practice. The clinic is equipped with the most modern type of dental units and motor-driven chairs. The X-ray equipment is of the latest design. The laboratory has complete facilities for introductory training.

Graduates of the two-year Dental Hygiene curriculum receive the Associate in Applied Science degree and are qualified to take the New York State licensing examination. They may also obtain a temporary certificate to teach dental hygiene in the schools.

In addition, Broome Technical Community College and State University of New York State Teachers College at Cortland have arranged a specially integrated program which enables graduates of the two-year Dental Hygiene curriculum at Broome Tech who are recommended by their Department Head to continue their education at Cortland State.

In two years and one summer session, such graduates may complete a program at Cortland leading to the Bachelor of Science degree in Health Education. They would also receive a permanent New York State teaching certificate in dental hygiene.

For further information, consult with the Director of Admissions at Broome Technical Community College or at State University of New York State Teachers College at Cortland.

CURRICULUM OUTLINE

DENTAL HYGIENE

1st YEAR

		Hours Per Week		
Term 1 (Fall)		Class	Lab	Credits
71	Communication Skills	3	0	3
582	First Aid	2	0	2
700	Dental Manikin Practice	0	6	2
710	Mathematics	3	0	3
740	Dental Anatomy	3	2	4
748	Gross Anatomy and Physiology	3	0	3
		14	8	17
Term 2 (Winter)				
72	Communication Skills	3	0	3
91	Psychology	3	0	3
701	Dental Manikin Practice	0	6	2
741	Dental Anatomy	0	2	1
749	Gross Anatomy and Physiology	3	0	3
781	Public Health	2	0	2
		13	10	17
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
703	Oral Hygiene	0	6	2
723	Chemistry	3	2	4
728	Bacteriology	2	4	4
742	Dental Anatomy	0	2	1
750	Hygiene	2	0	2
756	Typing	0	3	1
		10	17	17

2nd YEAR

Term 4 (Fall)				
75	Effective Speaking	3	0	3
704	Oral Hygiene	0	12	4
744	Preventive Dentistry	3	0	3
751	Pharmacology	2	0	2
754	Pathology	3	0	3
783	Dental Health Education	3	0	3
		14	12	18
Term 5 (Winter)				
92	Economics	3	0	3
705	Oral Hygiene	0	12	4
753	Radiology	3	0	3
758	Dental Office Practice	2	2	3
761	Nutrition	2	0	2
785	Health Services in Schools	3	0	3
		13	14	18
Term 6 (Spring)				
94	Sociology	3	0	3
706	Oral Hygiene	0	12	4
759	Dental Office Practice	2	2	3
760	Dental Laboratory Practice	3	0	3
764	School Organization	3	0	3
		11	14	16

ELECTRICAL TECHNOLOGY

Electric power was first produced commercially in this country about 75 years ago. Today it has become an indispensable part of our daily living. It is an energizing force without which most industrial and even home activity would be impossible.

More than 87,000,000 kilowatts of electric power are installed in power plants of the country today. Evaluating horsepower as equivalent to 10 times the power of a man, the average factory worker is therefore supported by the equivalent of 75 slaves.

Moreover, the rapid expansion in electronics in recent years has made that industry one of the most vital in the country, both to the nation's economy and to the nation's defense.

Needless to say, the human element is very important in this vast field. Thousands of people are needed—people to visualize, plan, build, direct, and operate. Two-year technical colleges, like Broome Tech, are becoming increasingly important in preparing well trained men for the electrical field. Such colleges can train men to do highly specialized work of a technical nature in less time than the normal four-year course.

Demand exceeds the supply of Broome Tech graduates for positions in electrical drafting and design, in technical sales and services, and as engineering technicians in power generation and distribution, in communications, and in the construction and testing of electrical power equipment, electronic computers, data processing machines, radar, sonar, and guided missiles.

CURRICULUM OUTLINE

ELECTRICAL TECHNOLOGY

1st YEAR

		Hours Per Week		
Term 1 (Fall)		**Class**	**Lab**	**Credits**
71	Communication Skills	3	0	3
81	Industrial Safety and First Aid	2	0	2
101	Mathematics	4	0	4
300	Electrical Construction and Maintenance	1	3	2
330	Engineering Drawing	0	6	2
340	Electrical Circuits	4	3	5
		14	12	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
301	Electrical Construction and Maintenance	1	3	2
331	Engineering Drawing	0	6	2
341	Electrical Circuits	4	3	5
360	Mechanics	3	0	3
		15	12	19
Term 3 (Spring or Summer)*				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	4
302	Electrical Construction and Maintenance	0	3	1
332	Electrical Design	0	6	2
342	Electrical Circuits	4	3	5
348	Electronics	5	3	5
		16	15	20

2nd YEAR

Term 4 (Fall or Winter)*				
91	Psychology	3	0	3
92	Economics	3	0	3
333	Electrical Design	0	3	1
345	Electrical Machines	4	3	5
349	Electronics	5	3	6
394	Industrial Organization	3	0	3
		18	9	21
Term 5 (Spring)				
94	Sociology	3	0	3
334	Electrical Design	0	3	1
346	Electrical Machines	4	3	5
350	Electronics	5	3	6
354	Industrial Control	3	3	4
395	Industrial Organization	3	0	3
		18	12	22

* Student is in school one term and in industry on the cooperative program one term during these periods.

ENGINEERING PHYSICS

Events of the recent past have laid important emphasis upon the need for educational opportunities of high quality in the fields of science and engineering. In addition, the accelerated development of the computer and its many applications have placed increasing emphasis upon the need for technicians with a high level of training in mathematics and physics. A study of these problems by a committee of industrial personnel working with the Staff and Trustees of the College led to the conclusion that a curriculum could be developed to meet both of these needs effectively.

The establishment of the curriculum in Engineering Physics is the result of this study. By a proper choice of electives, the student may prepare either for admission into the third year of most engineering curriculums or for entry positions in industry as a computer technician. The graduate of the technician program also will have an excellent foundation for continuing his education on a full or part-time basis when the opportunity presents itself.

Students admitted to this curriculum will be selected from those who demonstrate high accomplishment and high potential ability in mathematics and science.

CURRICULUM OUTLINE

ENGINEERING PHYSICS

1st YEAR

		Hours Per Week Class	Lab	Credits
Term 1 (Fall)				
71	Communication Skills	3	0	3
110	Mathematics	4	0	4
120	Physics	3	3	4
224	Chemistry	3	3	4
430	Engineering Drawing	0	6	2
		13	12	17
Term 2 (Winter)				
72	Communication Skills	3	0	3
91	Psychology	3	0	3
111	Mathematics	4	0	4
121	Physics	3	3	4
225	Chemistry	3	3	4
431	Engineering Drawing	0	3	1
		16	9	19
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
90	Logic	3	0	3
112	Mathematics	4	0	4
122	Physics	3	3	4
226	Chemistry	3	3	4
400	Shop	1	3	2
		17	9	20

2nd YEAR

Term 4 (Fall)				
(Fall Term 4)—2nd Year				
75	Effective Speaking	3	0	3
113	Mathematics	3	0	3
123	Physics	3	3	4
432	Mechanisms	3	3	3
	Elective	3	3	4
		15	9	17
Term 5 (Winter)				
92	Economics	3	0	3
114	Mathematics	3	0	3
124	Physics	3	3	4
344	Electrical Circuits	3	3	4
	Elective	3	3	4
		15	9	18
Term 6 (Spring)				
94	Sociology	3	0	3
115	Mathematics	3	0	3
125	Physics	3	3	4
145	Theory of Measurement	3	3	4
352	Electronics	3	3	4
		15	9	18

MECHANICAL TECHNOLOGY

New York is the greatest industrial state in the nation. About one out of every five of the nation's factories lies inside its borders. Of the 453 types of industries classified by the Bureau of the Census, 430 are found in the State, a larger number than in any other State. Thirty percent of its workers are engaged in manufacturing as compared with 25% in the rest of the country.

In order to maintain and expand such concentrated industrial capacity, there must be a constant reservoir of trained men. Furthermore, the level of technical competence required in the mechanical field is becoming increasingly higher because of the complexity of modern machinery.

It is well known that industry today is concerned about the availability of engineering and technical personnel. This need is felt particularly in New York State because of the number and variety of its industries.

There is a broad area in industry in which the employment of technicians is desirable: quality control, production, planning, drafting, time study, sales. More and more employers are turning to two-year technical graduates to fill positions on the technician level.

The two-year Mechanical Technology program at Broome Tech is preparing young men to take their places as technicians and engineering aides in the industries of New York and other states.

In the second-year, Mechanical Technology students may choose an automotive option which substitutes five courses specializing in the automotive field for five relating to the mechanical. These options will be offered only during the Winter and Spring Terms of the senior year. Graduates of this program are prepared as technicians in the automotive engineering industry.

CONSTRUCTION TECHNOLOGY

In recent years, the country has been experiencing an unprecedented growth in highway and building construction. New York State and the Triple Cities are no exceptions. However, the unparalleled activity in construction has pointed up the severe shortage of technical personnel in this field—a shortage made even more acute by activation of new multi-billion dollar state and federal highway programs, by the erection of new educational and industrial plants, and by the continued expansion in home building.

Construction Technology has been designed to help alleviate this shortage.

The curriculum is identical with Mechanical Technology during the first two terms. Starting with the third term, however, students can select either a highway or building construction option which offers specialized courses, such as architectural drafting, surveying, structural design, estimating, specification writing, soil mechanics, highway design and building design.

Graduates will be qualified to serve as architectural, engineering, plant layout, structural, or topographical draftsmen; as construction equipment or materials salesmen; as estimators; as expediters; as surveyors; as specification writers; and—after employment experience—as construction foremen, supervisors, or inspectors. They can also fill many other positions at the technician level.

CURRICULUM OUTLINE

MECHANICAL TECHNOLOGY

Mechanical Option

	1st YEAR	Hours Per Week Class	Lab	Credits
Term 1 (Fall)				
71	Communication Skills	3	0	3
91	Psychology	3	0	3
101	Mathematics	4	0	4
400	Shop — KAPRAL	1	3	2
430	Engineering Drawing — FORBES	0	6	2
440	Mechanics — MILENSKY	3	3	4
		14	12	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
401	Shop — KAPRAL - ELLIS	1	3	2
421	Electricity — DURST	3	3	4
431	Engineering Drawing — FORBES	0	3	1
441	Mechanics — MILENSKY	3	0	3
445	Heat — MILENSKY	3	3	4
		17	12	21
Term 3 (Spring or Summer)*				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	4
402	Shop — KAPRAL	1	3	2
432	Mechanisms — FORBES	3	3	4
442	Strength of Materials — MILENSKY	3	3	4
446	Metallurgy — ELLIS	3	3	4
		17	12	21
	2nd YEAR			
Term 4 (Fall or Winter)*				
92	Economics	3	0	3
403	Shop — KAPRAL - LAWN	1	3	2
433	Machine Design — FORBES	3	3	4
444	Thermodynamics — DURST	3	0	3
448	Mechanical Machines — DURST	3	3	4
460	Electricity — DURST	3	3	4
		16	12	20
Term 5 (Spring)				
94	Sociology	3	0	3
404	Advanced Processes — ELLIS	1	3	2
434	Production Design — FORBES	2	3	3
449	Mechanical Machines — DURST	3	3	4
450	Quality Control — LAWN	3	3	4
494	Industrial Organization — EVERETT	3	0	3
		15	12	19

* Student is in school one term and in industry on the cooperative program one term during these periods.

CURRICULUM OUTLINE

MECHANICAL TECHNOLOGY

Automotive Option

	1st YEAR	Hours Per Week		
Term 1 (Fall)		Class	Lab	Credits
71	Communications Skills	3	0	3
91	Psychology	3	0	3
101	Mathematics	4	0	4
400	Shop	1	3	2
430	Engineering Drawing	0	6	2
440	Mechanics	3	3	4
		14	12	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
401	Shop	1	3	2
421	Electricity	3	3	4
431	Engineering Drawing	0	3	1
441	Mechanics	3	0	3
445	Heat	3	3	4
		17	12	21
Term 3 (Spring or Summer)*				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	4
402	Shop	1	3	2
432	Mechanisms	3	3	4
442	Strength of Materials	3	3	4
446	Metallurgy	3	3	4
		17	12	21

	2nd YEAR			
Term 4 (Fall or Winter)*				
92	Economics	3	0	3
405	Shop RITTENHOUSE	1	3	2
433	Machine Design	3	3	4
444	Thermodynamics	3	0	3
448	Mechanical Machines	3	3	4
459	Auto Electricity RITTENHOUSE	3	3	4
		16	12	20
Term 5 (Spring)				
94	Sociology	3	0	3
404	Advanced Processes	1	3	2
435	Automotive Design DURST	2	3	3
451	Internal Combustion Engines RITTENHOUSE	3	3	4
407	Auto Chassis and Transmission RITTENHOUSE	3	3	4
494	Industrial Organization	3	0	3
		15	12	19

* Student is in school one term and in industry on the cooperative program one term during these periods.

CURRICULUM OUTLINE

CONSTRUCTION TECHNOLOGY

Highway Option

	1st YEAR	Hours Per Week		
Term 1 (Fall)		Class	Lab	Credits
71	Communication Skills	3	0	3
91	Psychology	3	0	3
101	Mathematics	4	0	4
400	Shop	1	3	2
430	Engineering Drawing	0	6	2
440	Mechanics	3	3	4
		14	12	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
401	Shop	1	3	2
421	Electricity	3	3	4
431	Engineering Drawing	0	3	1
441	Mechanics	3	0	3
445	Heat	3	3	4
		17	12	21
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	3
436	Architectural Drafting HOYT	1	3	2
442	Strength of Materials ~~EVERETT~~	3	3	4
475	Concrete DOUGHERTY	2	3	3
476	Surveying DOUGHERTY	2	6	4
		15	15	20

	2nd YEAR			
Term 4 (Fall)				
92	Economics	3	0	3
437	Architectural Drafting HOYT	1	3	2
443	Strength of Materials STEELE	3	0	3
447	Hydraulics DOUGHERTY	3	3	4
477	Surveying DOUGHERTY	1	6	3
479	Estimating HOYT	2	3	3
		13	15	18
Term 5 (Winter)				
94	Sociology	3	0	3
470	Structural Design STEELE	3	3	4
480	Specification Writing HOYT	3	0	3
483	Highway Design STEELE	3	3	4
486	Materials Testing STEELE (DOUGHERTY)	3	3	4
558	Business Law ARTUSO	3	0	3
		18	9	21
Term 6 (Spring)				
471	Structural Design STEELE	3	3	4
484	Highway Design STEELE	3	3	4
485	Construction Planning HOYT	3	0	3
487	Soil Mechanics STEELE	3	3	4
495	Industrial Organization and Management	3	0	3
		15	9	18

CURRICULUM OUTLINE

CONSTRUCTION TECHNOLOGY

Building Option

	1st YEAR	Hours Per Week Class	Lab	Credits
Term 1 (Fall)				
71	Communication Skills	3	0	3
91	Psychology	3	0	3
101	Mathematics	4	0	4
400	Shop	1	3	2
430	Engineering Drawing	0	6	2
440	Mechanics	3	3	4
		14	12	18
Term 2 (Winter)				
72	Communication Skills	3	0	3
102	Mathematics	4	0	4
401	Shop	1	3	2
421	Electricity	3	3	4
431	Engineering Drawing	0	3	1
441	Mechanics	3	0	3
445	Heat	3	3	4
		17	12	21
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
103	Mathematics	4	0	4
436	Architectural Drafting	1	3	2
442	Strength of Materials	3	3	4
475	Concrete	2	3	3
476	Surveying	2	6	4
		15	15	20
	2nd YEAR			
Term 4 (Fall)				
92	Economics	3	0	3
437	Architectural Drafting	1	3	2
443	Strength of Materials	3	0	3
447	Hydraulics	3	3	4
477	Surveying	1	6	3
479	Estimating	2	3	3
		13	15	18
Term 5 (Winter)				
94	Sociology	3	0	3
425	Electrical Equipment for Buildings DURST	3	3	4
470	Structural Design	3	3	4
472	Building Design HOYT	3	3	4
480	Specification Writing	3	0	3
558	Business Law	3	0	3
		18	9	21
Term 6 (Spring)				
427	Mechanical Equipment for Buildings LAWTON	3	0	3
471	Structural Design	3	3	4
473	Building Design HOYT	3	3	4
487	Soil Mechanics	3	3	4
495	Industrial Organization and Management	3	0	3
		15	9	18

MEDICAL OFFICE ASSISTANT

In the field of medicine, always a fascinating one for many young women, a new and interesting career has opened up in the last few years—the Medical Office Assistant.

Broome Technical Community College prepares young women of ability and character for this career by offering specialized training combining secretarial work with clinical laboratory procedures. Experience has shown that intensive courses of instruction in the business field, together with clinical laboratory work, have prepared the graduates for good employment opportunities in physicians' offices, hospital laboratories and record rooms, and related fields.

The Medical Office Assistant must be versatile, fitted by training and personality to work with professional medical people in various ways. In addition to general education, she needs basic knowledge and skills such as typing, medical shorthand, accounting and office procedures. Anatomy, physiology, bacteriology, chemistry, and materia medica are working tools and a base for acquiring the vocabulary of medicine. Routine clinical laboratory procedures in urinalysis, hematology and blood chemistries complete the curriculum.

Graduates, too few to meet the demand, are finding satisfaction, variety, and opportunity in this important phase of medical service.

CURRICULUM OUTLINE

MEDICAL OFFICE ASSISTANT

1st YEAR

		Hours Per Week Class	Lab	Credits
Term 1 (Fall)				
71	Communication Skills	3	0	3
510	Mathematics	3	0	3
524	Chemistry	3	3	4
530	Zoology	3	3	4
601	Typewriting	0	5	2
604	Shorthand	5	0	3
		17	11	19
Term 2 (Winter)				
72	Communication Skills	3	0	3
511	Mathematics	3	0	3
525	Chemistry	3	3	4
531	Zoology	3	3	4
602	Typewriting	0	5	2
605	Shorthand	5	0	3
		17	11	19
Term 3 (Spring)				
73	Readings for Discussion	3	0	3
91	Psychology	3	0	3
503	Typewriting	0	5	2
506	Shorthand	5	0	3
543	Anatomy	3	2	4
545	Clinical Laboratory	2	4	4
		16	11	19

2nd YEAR

Term 4 (Fall)				
92	Economics	3	0	3
507	Transcription	0	5	3
540	Accounting	3	0	3
544	Physiology	2	3	3
546	Clinical Laboratory	2	4	4
550	Bacteriology	2	4	4
		12	16	20
Term 5 (Winter)				
94	Sociology	3	0	3
508	Medical Shorthand	0	5	3
547	Clinical Laboratory	2	6	4
551	Bacteriology	2	4	4
556	Office Practice	1	2	2
582	First Aid	2	0	2
		10	17	18
Term 6 (Spring)				
75	Effective Speaking	3	0	3
509	Medical Shorthand	0	5	3
535	Histology and Embryology	2	2	3
548	Clinical Laboratory	2	6	4
557	Office Practice and Accounting	1	2	2
558	Business Law	3	0	3
		11	15	18

GENERAL EDUCATION

A considerable portion of every student's academic program is devoted to courses in General Education, which complement the work in his technical speciality and seek to give breadth and depth to his experience in college and in later life.

The objectives of General Education are to develop in the student:

1. The ability to grasp ideas and to express them effectively in speech and writing
2. An interest in reading widely for self-improvement
3. The ability to think clearly and constructively
4. An understanding of himself and others
5. An understanding of and an interest in the economic, political, and social life of the nation and the world
6. An appreciation of the rights and responsibilities of good citizenship in a democratic society

In General Education courses and in the varied program of organized student activities, opportunity is given to acquire the skills, knowledge, and attitudes for personal growth and participation in community life.

COURSES OF INSTRUCTION

61, 62, 63 Physical Education and First Aid **1 credit hour each sem.**

A course designed to introduce the student to a variety of activities which will have value later in adult life. The purpose of the course is not the development of a high degree of proficiency in any one area, but the development of basic skills and knowledge of several different activities. The program is composed of instruction in archery, badminton, bowling, dancing, golf, horseshoes, table tennis, tennis, and volleyball. One hour lectures are provided to increase spectator understanding of the major sports. During the Winter quarter time is devoted to lecture and laboratory periods designed to give the student a working knowledge of the fundamentals of first aid.

71 Communication Skills **3 credit hours**

The first in a sequence of courses to help the student understand language and to use it effectively; to formulate, organize, and express ideas in speech and writing; and to enlarge his experience through critical reading. The nature of language, its history, an introduction to semantics. Levels of usage. Organization of ideas, elements of style. Similarities and differences in written and oral English. Speeches and themes.

72 Communication Skills **3 credit hours**

Mechanics of writing. Improvement of reading speed and comprehension. Business correspondence. Parliamentary procedure. Speeches and themes.

73 Readings for Thought and Discussion **3 credit hours**

Designed to broaden the student's understanding of our culture by introducing him to some challenging ideas of recognized writers. Through selected readings the student is encouraged to improve the quality of his thinking and to develop his skill of expression by means of class discussions and oral and written reports. A research paper is required.

75 Effective Speaking **3 credit hours**

Speech communication through voice, words, and action. Voice production, diction, platform presence, organization of ideas. Practice in presenting speeches of different types. Techniques of group discussion.

Courses of Instruction: General Education

77 American Literature **3 credit hours**

A study of American Literature during the 19th and 20th centuries through the reading of selected works by such writers as Emerson, Thoreau, Whitman, and Twain. Insofar as possible, works are read in their entirety and stress is placed upon the emergence of ideas important in our own times.

81 Industrial Safety and First Aid **2 credit hours**

Accident sources and causes; safety as a responsibility of workers and management; job safety analysis; education, training, supervision, and organization for safety; accident reports and records; principles of first aid.

90 Logic **3 credit hours**

An introductory course in logical methods of thought and analysis. Emphasis on fallacies, deduction, induction, and subjective factors in sound thinking.

91 Psychology **3 credit hours**

Designed to give the student insight into human nature to help him understand his own behavior and the behavior of others. Emphasis on perception, intelligence, learning, memory, motivation, personality, psychological measurement, problems of adjustment.

92 Economics **3 credit hours**

Economic facts and principles and their application to the American society. Production; consumption; forms of business ownership; national income; money, credit, banking; taxation; social security; labor-management relations; business cycles; international trade; comparision of capitalism with other economic systems.

94 Sociology **3 credit hours**

Human groups, their activities, interrelationships, forces influencing them, and the influence of groups upon individuals and society. Emphasis on the foundations of society, our cultural environment, the family, education, religion, the growth of the individual within the social framework, the aged in modern society, social progress.

Courses of Instruction: Mathematics-Physics

101 Mathematics **4 credit hours**

College trigonometry and introduction to college algebra.

102 Mathematics **4 credit hours**

Continuation of college algebra and introduction to analytic geometry.

103 Mathematics **4 credit hours**

Continuation of analytic geometry.

110 Mathematics (Analytic Geometry-Calculus) **4 credit hours**
111 Mathematics (Calculus) **4 credit hours**
112 Mathematics (Calculus) **4 credit hours**
113 Mathematics (Calculus) **3 credit hours**

A four-term calculus sequence including analytical geometry, differential, and integral calculus. This sequence is intended as preparation for more advanced courses in mathematics. Includes equations and loci; straight line, conic sections, functions and limits; the derivative differentiation and integration of algebraic, logarithmic, and exponential functions; special techniques of integration; multiple integration; partial derivatives, hyperbolic functions, etc. Particular attention given to use of function and limits; use of integral tables; physical application of differentiation and integration.

114 Mathematics (Differential Equations) **3 credit hours**

Method of solution of ordinary and simple partial differential equations by analytic and numerical methods.

115 Mathematics (Differential Equations) **3 credit hours**

Continuation of Mathematics 114 with further study of certain types of ordinary and partial differential equations. Specific application to typical engineering problems. Some introduction to operational methods.

120 Physics (Heat and Mechanics) **4 credit hours**

Temperature, calorimetry, heat transfer, fusion, vaporization, and elementary thermodynamics. Composition and resolution of forces, equilibrium, friction, and application of fundamental principles to static mechanic problem solutions.

121 Physics (Dynamics) **4 credit hours**

Rectilinear motion, Newton's laws, work, energy, power, impulses, momentum, rotation, elasticity, harmonic motion, and simple machines.

Courses of Instruction: Mathematics-Physics

122 Physics (Electricity and Magnetism) **4 credit hours**
123 Physics (Electricity and Magnetism) **4 credit hours**

Study of the fundamental laws of electric and magnetic fields with application to elementary circuit problems. Electrostatic fields; induced emfs; inductance; capacitance, dielectrics; steady currents, and simple transients. Laboratory work consists of electrostatic, electromagnetic and circuit measurements.

124 Physics (Light and Sound) **4 credit hours**

Sound generation, wave motion, acoustical phenomena. Geometrical optics, reflection, refraction, lenses, mirrors.

125 Physics (Modern Physics) **4 credit hours**

The study of contemporary theories of atoms, molecules, matter and radiation. Elements of nuclear and atomic structures, basic kinetic theory of atoms and electrons, radiation theory, electrical processes with reference to electrical properties of materials, semi conductors, and general electron emission processes.

127 Physics (Statics and Heat) **4 credit hours**

An introductory course in static mechanics and in the study of heat and heat transfer.

128 Physics (Electricity) **4 credit hours**

A basic course in the study of electricity and magnetism. Mathematic and electrostatic waves, electric potential, Ohm's law, Lenz's law, simple A-C and D-C circuits.

129 Physics (Light and Sound) **4 credit hours**

Light; geometric and physical optics, including the nature of light, fraction, lenses, optical instruments, polarization, emission and absorption of light. Sound; wave motion and sound, sound waves, and physiology of sound.

145 Theory of Measurements and Control **4 credit hours**

An introduction to the field of measurement and control. Mechanical, electrical, electronic, thermal, and pneumatic devices. A portion of course is devoted to the study of the design and construction of precision instruments. Study of operation and application of transducers and other control devices. The general principles of closed-loop control systems as applied in regulators and servo-mechanisms.

216 Statistics **3 credit hours**

An introduction to the basic concepts of statistics; description of frequency distribution (averages, dispersion, and simple correlation). Stress is placed on industrial statistics for the chemist.

224 Chemistry **4 credit hours**
225 Chemistry **4 credit hours**
226 Chemistry **4 credit hours**

A sequence of fundamental chemical principles. Laws of chemical combination, atomic structure, gas laws, chemical equilibrium, oxidation-reduction, etc. Theoretical and industrial application; properties of engineering materials; solution of chemical problems. The laboratory includes experiments to verify fundamental laws; the preparation and properties of compounds; gas analysis; elementary technical analysis. Introduction to qualitative analysis and organic chemistry.

230 Engineering Drawing **1 credit hour**
231 Engineering Drawing **1 credit hour**

An introductory course in mechanical drawing. The use of instruments, drafting conventions, dimensioning, and orthographic projection. Emphasis on detail and working drawings, piping layouts, structural layouts, and projects.

240 General Chemistry **5 credit hours**
241 General Chemistry **4 credit hours**

The fundamental laws and theories necessary to understand the phenomena of chemical action. The properties of individual elements and groups of elements and the solving of related problems. Laboratory work to develop techniques and qualities for greater proficiency in later laboratory work.

242 Qualitative Chemistry **3 credit hours**

A theoretical discussion of ionization constants, solubility products and equilibrium constants as influencing qualitative analysis. Laboratory work including the detection and identification of the more important cations and anions including work on the analysis of mixtures. Emphasis on various tests: flame, blow-pipe, bead, open and closed tube, and solubility. Use of the hand spectroscope and light microscope.

243 Quantitative Chemistry **5 credit hours**

The application of physical and chemical theory to the more important volumetric and gravimetric procedures. A study is made of the analytical balance, errors, precision, significant figures, and methods for the preparation of samples for analysis. The laboratory work is designed to give training in the application of various methods of quantitative analysis, including volumetric precipitation, complex-ion, acid-base, redox, and simple gravimetric.

244 Quantitative Chemistry **5 credit hours**

A continuation of Quantitative Chemistry (243). Stress is placed on the quantitative separation of elements which are found in ferrous and non-ferrous alloys, ores, minerals, and various simple commercial products. The course provides an introduction to instrumental methods of analysis. Electrolytic, electrometric titratron, and gasometric methods are introduced.

247 Instrumental Analysis **5 credit hours**

Theory and laboratory application of the newer physico-chemical methods of analysis. Laboratory work will include experiments in visible, ultraviolet and infrared spectroscopy, flame photometry, chemical microscopy, chromatography and ion exchange. Related technical report writing.

248 Instrumental Analysis **5 credit hours**

A continuation of Instrumental Analysis (247). Laboratory work will include experiments in voltammetry and polarography, polarimetry, conductimetry, potentiometry, gas analysis, and the determination of water. Related technical report writing.

Courses of Instruction: Chemical Technology

250 Organic Chemistry **6 credit hours**

The important classes of carbon compounds such as hydrocarbons, alcohols, ethers, esters, amines, etc., in terms of modern electronic and resonance theories. Related laboratory work.

251 Organic Chemistry **6 credit hours**

Heterocyclic compounds, tautomerism, stereoisomerism, dyes, proteins, synthetic resins, etc. Introduction to the systematic identification of organic compounds. Class and laboratory work.

254 Advanced Inorganic Chemistry **2 credit hours**

A study of the elements and their inorganic compounds based on modern concepts of atomic and molecular structures.

255 Industrial Chemistry (Stoichiometry) **2 credit hours**
256 Industrial Chemistry **4 credit hours**
257 Industrial Chemistry **5 credit hours**

The industrial adaptation of chemical processes in the manufacturing of chemicals and allied products, involving quantities, yields, handling of materials, the most efficient types of equipment, and the factors of the flow of energy and its best utilization. Specific studies of fuels, the flow of fluids, heat transfer and evaporation. Size reduction and separation, humidity and air conditioning, drying, distillation and absorption. Laboratory work conducted in manner similar to industrial research.

261 Library Techniques **2 credit hours**

Introduction to library resources and technical processes with particular reference to specialized libraries. Practice in the use of library materials and techniques; study of the literature of chemistry and its use in research.

296 Industrial and Labor Relations **3 credit hours**

Human relations in industry including a study of the individual and why he behaves as he does, group behavior and the reduction of destructive conflicts between them. Case studies in which the human element is isolated and analyzed.

Courses of Instruction: Electrical Technology

300 Electrical Construction and Maintenance 2 credit hours
301 Electrical Construction and Maintenance 2 credit hours
302 Electrical Construction and Maintenance 1 credit hour

A sequence of courses to familiarize the student with general trade practices and the acquiring of basic manipulative skills. Experience in the installation and maintenance of electrical equipment. Basic training in the different types of wiring systems used in industry and homes, trouble-shooting and repair of electrical equipment, use of the lathe, drill press, shaper, welder and associated equipment. Study of the National Electrical Code Rules, shop safety practices. Some electrical estimation work.

330 Engineering Drawing 2 credit hours

An introductory course. Technique of good lettering, practical geometry and geometric construction, principles of orthographic projection, theory and application of dimensioning.

331 Engineering Drawing 2 credit hours

Technical sketching and pictorial representation. Applications of auxiliary views, sections and conventions used in orthographic projection. Types and representation of threads, bolts, nuts, keys, keyways and locking devices, and assembly drawings. Discussion of shop processes and procedures to facilitate the understanding of drafting problems. Emphasis on free-hand sketching of mechanisms.

332 Electrical Design 2 credit hours

Electrical drafting to further the student's understanding of the principles of lighting design, wiring layouts, and the interpretation of schematic diagrams as applied to electrical control equipment. The use of catalogs, charts, data sheets, and the National Electrical Code book to obtain information needed for the layout and design of electrical circuits. Preparation of material lists and estimates of costs. Planning of lighting and control wiring layouts.

333 Electrical Design 1 credit hour

A further study of control circuit diagrams and outline drawings of panel and switch boards. Layouts of substations and transmission circuits. Interpretation of the schematic and one-line diagrams that are the engineering langauge of the electrical industry.

Courses of Instruction: Electrical Technology

334 Electrical Design **1 credit hour**

The application of electrical drafting in the field of electronics. Symbols, conventions, layout procedures, and circuit sequence that comprise an electronic circuit. The design of a circuit for an electronic device that the students may wish to construct, test and operate.

340 Electrical Circuits **5 credit hours**

D-C fundamentals, the solution of series, parallel, series-parallel, and complex circuits, magnetism, electro-magnetism, magnetic circuits, and instruments. Laboratory techniques, use and protection of equipment.

341 Electrical Circuits **5 credit hours**

Continuation of D-C circuits, covering complex circuits and the application of Kirchoff's laws, Thevinum's theorem and superposition. Theory of inductance, capacitance, and circuit time constants.

342 Electrical Circuits **5 credit hours**

A-C fundamentals, solution of series, parallel, and combination circuits employing the use of polar vectors in both single and polyphase circuits. A-C instruments.

344 Electrical Circuits **4 credit hours**

Basic principles of electrical circuits. Kirchhoff's laws. Direct current networks and network theorems. Sine-wave voltage and current relationships using vector representation. Real and reactive power, application of vector algebra; resonance and loci analysis. Balanced polyphase circuits.

345 Electrical Machines **5 credit hours**

Theory, operation and application of D-C machinery. Introduction to single and polyphase transformers, their design, characteristics and applications. Use of vector diagrams. Class work and directly related laboratory experience.

346 Electrical Machines **5 credit hours**

Continuation of the work on transformers with special attention to special connectors. Alternators, synchronous motors, induction motors. Theory of design, construction, characteristics, and applications. Laboratory work dealing with several methods of evaluation. Special methods for predicting characteristics, including vector and circle diagram methods.

Courses of Instruction: Electrical Technology

348 Electronics **6 credit hours**

Introductory course. The characteristics and behavior of the various components of electronic circuits: tubes, transistors, saturable reactors, etc. How these components affect circuits in which they are used.

349 Electronics **6 credit hours**

The behavior and application of the fundamental circuits in which the components studied in Electronics 348 are used.

350 Electronics **6 credit hours**

The behavior and application of circuits consisting of a combination of two or more of the fundamental circuits. Emphasis on understanding the behavior and methods of checking for causes of malfunction.

352 Electronics **4 credit hours**

Electron ballistics, theory, construction and characteristics of vacuum, gas filled, and photo sensitive tubes. Rectification and filtering. Thyratrons and pool type tubes. High vacuum triode characteristics, parameters, and equivalent circuits.

354 Industrial Control **4 credit hours**

The design and operation of industrial equipment used in the automatic control of industrial motors and generators. Laboratory work involving the connecting, operation and trouble-shooting of these control devices.

360 Mechanics **3 credit hours**

A basic course in the principles of statics. Composition and resolution of forces, concurrent-coplanar forces, parallel forces, center of gravity, force couples, non-coplanar forces, and friction. Principles of dynamic forces.

394 Industrial Organization **3 credit hours**

A treatment of management essentials and the interrelationship of specialized functions together with the principles governing them. Organization of basic industrial structures, organizing physical facilities, developing the product, production, and quality control.

395 Industrial Organization **3 credit hours**

Administration of industrial relations: personnel management, employee training, job evaluation, merit rating, sales and budgetary control, and coordination of the enterprise. Case problems.

Courses of Instruction: Mechanical Technology

400 Shop **2 credit hours**

The elements of machine tool operations involving the use of lathe, miller, shaper, drill press and fundamental bench operations. Cutting speeds and feeds, coolants, threads, tapers, drills, reamers and cutting tool angles.

401 Shop **2 credit hours**

Continuation of Shop (400) plus operations of the surface grinder and the cylindrical grinder. Practice and study of oxy-acetylene arc and resistance welding. Abrasives, grinding wheels and grinding methods.

402 Shop **2 credit hours**

Advanced operations on the lathes and milling machines, boring, internal threading, gear cutting and spiral milling, internal grinding, tool and outer grinding, lapping, honing and scraping.

403 Shop **2 credit hours**

Practice and study of precision measuring instruments and inspection methods. Problems in precision hole location involving jig boring, mill boring and lathe boring.

404 Advanced Processes **2 credit hours**

An advanced study of strength of materials and metallurgy as applied to the manufacturing processes. Weld tests, corrosion, fatigue, creep, hardenability, stress concentration, laboratory work.

405 Automotive Shop **2 credit hours**

A study of the automobile engine including the service procedure for tires, wheels, brakes, steering, headlights, radiator, engines and related parts.

407 Transmissions **2 credit hours**

The study of the automobile chassis and its components. Principles of operation of fluid couplings, torque converters, planetary geartrains, servos and multiple-disc clutches. Practice in disassembly, repair, diagnosis, and maintenance of units of various manufacture.

421 Electricity **4 credit hours**

The fundamentals of direct-current and alternating-current circuits; magnetism and induction.

425 Electrical Equipment for Buildings **4 credit hours**

Lighting, control, power requirements for building including codes.

427 Mechanical Equipment for Buildings **3 credit hours**

Elements of heating, air conditioning and ventilating equipment for buildings.

430 Engineering Drawing **2 credit hours**

An orientation course in the basic phases of engineering drawing including orthographic projection, pictorial representation, geometric construction and pattern development. Freehand sketching of models and machine parts. Detail and assembly working drawings.

431 Engineering Drawing **1 credit hour**

Descriptive geometry—the solution of problems covering points, lines, planes, and surfaces. The intersections of common elements; the developments of planes and surfaces.

432 Mechanisms **4 credit hours**

Machine motion and basic mechanisms, instantaneous velocities in machine parts, gears, cams and the theory of their design and operation; fundamental principles of planetary gearing.

433 Machine Design **4 credit hours**

A basic course in machine design covering the selections of materials, stress investigation, and the design of the fundamental machine elements.

434 Production Design **3 credit hours**

Process planning, selection of machinery, sequence of operations, speed and feeds, selection of standard tools, design of dies, jigs, fixtures and gages.

435 Automotive Design **4 credit hours**

The application of standard data to engine transmission and chassis design. Discussion of such topics as gradeability, speed, weight, balance, turning radii.

436 Architectural Drafting **2 credit hours**

437 Architectural Drafting **2 credit hours**

Isometric and perspective drawings and application to architectural drawing. Preliminary-plan studies, working drawings, details, sections, plot plan.

440 Mechanics **4 credit hours**

Basic principles of statics and dynamics. Study of forces, friction work, power, energy, center of gravity, velocity and acceleration, curvilinear motion.

441 Mechanics **3 credit hours**

Further study of statics and dynamics, trusses, force systems in space, moment of inertia of areas and bodies, impulse and momentum.

442 Strength of Materials **4 credit hours**

The relationship between stress and strain, the calculation of stresses in machine parts, beams and columns; the use of shear and moment diagrams, the determination of moments of inertia and centers of gravity, and the analysis of the effect of loading on stress distribution. Tests on wood, concrete, plastics and metal on standard testing machines in accordance with A. S. T. M. testing procedures.

443 Strength of Materials **3 credit hours**

Continuation of 442 including deflections of beams and statically indeterminate beams.

444 Thermodynamics **3 credit hours**

A study of interchange of energy between mechanical and thermal form. Energy relationships are developed from the perfect gas laws and the general energy equation. These relationships are employed to study practical heat cycles such as air compression, the internal combustion engine, steam generation, pumps, and refrigeration.

445 Heat **4 credit hours**

The principles of temperature and thermometry. Thermal phenomena, expansion of solids, liquids, and gases, the three states of matter, calorimetry, conduction, convention, radiation, properties of air, elementary hydraulics.

446 Metallurgy **4 credit hours**

The fundamentals of the physical metallurgy of ferrous and non-ferrous alloys. Investigation of the physical properties of metals. Hardness tests, thermal analysis and grain structure examination.

447 Hydraulics **4 credit hours**

Elements of fluid machines, fluid pressure, buoyancy, flow in pipes, methods of measurement.

448 Mechanical Machines **4 credit hours**

Energy equation, perfect gas relations, combustion processes, heat engines, internal-combustion engines, steam-power equipment, laboratory exercises.

449 Mechanical Machines **4 credit hours**

Hydraulics, fluid mechanics, pumps, fans, compressors, refrigeration theory, heat transfer, air conditioning and surveying, laboratory exercises.

450 Quality Control **4 credit hours**

The use of inspection methods to secure the control of quantity production of complex assemblies. The use of statistical principles in sampling, and the determination of variables and standard quality.

Courses of Instruction: Mechanical Technology

451 Internal Combustion Engines **4 credit hours**

The ideal engines, their effect on design and function of actual engines, carburetion, ignition, combustion, volumetric efficiency, engine output. Laboratory exercises emphasizing these functions.

459 Automotive Electricity **4 credit hours**

A study of the ignition, starting, charging, instrument, and lighting circuits of the modern automobile with laboratory testing of the various electrical components.

460 Electricity **4 credit hours**

Electrical motors, generators, controls. The elements of electronics and uses of electronic devices in the control of mechanical equipment.

470 Structural Design **4 credit hours**
471 Structural Design **4 credit hours**

Computation of forces and stresses in static structures. Types of loadings. Roof trusses, cables, arches, loadings, influence lines. Design of typical reinforced concrete and steel structures.

472 Building Design **4 credit hours**
473 Building Design **4 credit hours**

Application of theory to actual design, preparation of plans, estimates, and specifications. Term project.

475 Concrete **3 credit hours**

Plain concrete, design, control inspection, testing and curing of concrete mixes.

476 Surveying **4 credit hours**

The fundamentals of plane surveying, use and care of equipment and instruments, setting lines and grades, note keeping, mapping.

477 Surveying **3 credit hours**

Route surveying, topographical surveying, deed descriptions, highway curves and earthwork.

479 Estimating **3 credit hours**

The techniques of cost and material estimating, with practical problems in the student's specialty.

480 Specification Writing **3 credit hours**

Elements of specification writing with emphasis on the student's specialty. Selection of materials and equipment.

483 Highway Design **4 credit hours**
484 Highway Design **4 credit hours**
Application of highway theory, sight distances, intersections, curves and earthwork, quantities, mass diagram. Term project.

485 Construction Planning **3 credit hours**
Construction planning, equipment, and methods.

486 Materials Testing **4 credit hours**
Testings of various highway materials including bituminous materials, pipe and advanced concrete.

487 Soil Mechanics **4 credit hours**
Elements of the behavior of soils with emphasis on testing procedures.

494 Industrial Organization **3 credit hours**
Physical facility requirements, principles of mass production, production planning and control, plant layout, industrial engineering.

495 Industrial Organization and Management **3 credit hours**
Organization of the construction business; planning, scheduling, rate and time keeping, inventory and control. Problems related to the construction business.

Courses of Instruction: Medical Office Assistant

503 Typewriting **2 credit hours**

Continuation of basic skill-building with emphasis on speed and advanced problems. Rough drafts, medical data, manuscripts, legal papers.

506 Shorthand **3 credit hours**

More emphasis on the building of transcription speed. Further drill for dictation speed. Some beginning medical dictation.

507 Transcription **3 credit hours**

Development of skill in reading shorthand notes and turning out from them a mailable transcript on the typewriter.

508 Medical Shorthand **3 credit hours**
509 Medical Shorthand **3 credit hours**

Dictation of medical material to be transcribed on the typewriter. Further drives for speed at taking dictation under the same standards described under Shorthand. The building of medical vocabulary which can be taken in shorthand and transcribed accurately on the typewriter. The use of medical dictionaries.

510 Mathematics **3 credit hours**

A review of fractions, percentage and proportional problems using medical terminology. Mathematics used in the preparation of solutions and dosages with both metric and apothecaries systems of measuring volume and weight. Ordinary household, metric and apothecaries equivalent meaures with applied problems in converting from one system to another, as well as problems in making up hypodermic and oral medications from concentrated solutions, tablets and full-strength drugs.

511 Mathematics **3 credit hours**

A review of the fundamental processes with emphasis on short methods and checking accuracy. Common and decimal fractions as used in business. Applied problems in banking, insurance, discounts, partial payments, installment buying, interest, taxes and other common office and household uses of mathematics.

524 Chemistry **4 credit hours**
525 Chemistry **4 credit hours**

Taught from the laboratory point of view and adopted to the needs and interests of students of the biological sciences. The fundamental principles and laws of general and analytical chemistry.

Courses of Instruction: Medical Office Assistant

530 Zoology **4 credit hours**
531 Zoology **4 credit hours**

This basic course begins with the gross structure and physiology then considers microscopic details and organ systems of animals in general. Lectures (illustrated with correlated film strips) and laboratory work are introductory to the field of animal life and planned as a foundation for those who wish to concentrate in the biological sciences.

535 Histology and Embryology **3 credit hours**

An introductory course providing by lecture and laboratory an understanding of the normal structure and development of the tissues and organs of the animal body.

540 Accounting **3 credit hours**

The science of record keeping from the basic definition of terms and the fundamental accounting equation through books of original entry, final entry, and the trial balance. Practical problems based on each topic.

541 Accounting **3 credit hours**

Adjusting, closing the books, worksheet, bad debts, obsolescence, general and subsidiary ledgers. Problems and set.

543 Anatomy **4 credit hours**

Designed for those interested in biological science but open to those with sufficient background. Lectures deal with the normal human structure. The laboratory work illustrates these structures by dissection and microscopic study of the foetal pig and cat.

544 Human Physiology **3 credit hours**

Fundamental physiological processes and how these processes regulate the human machine. Lecture and laboratory work. Laboratory work includes microscopic study and kymograph work as well as principles and practice of electrocardiography and basal metabolism.

Courses of Instruction: Medical Office Assistant

545 Clinical Laboratory **4 credit hours**
546 Clinical Laboratory **4 credit hours**

A sequence of courses dealing with the biological processes which go on in living matter, and the practice of clinical techniques employed in doctors' offices and hospital laboratories. Laboratory work in microscopic, qualitative, and quantitative analysis of body fluids both normal and pathological. Special attention to the analysis of urine and blood.

547 Clinical Laboratory **4 credit hours**
548 Clinical Laboratory **4 credit hours**

Hematology; the complete blood count, sedimentation rates, hematocrit, cell indices; coagulation, bleeding and prothrombin time; the blood picture in various diseases, blood grouping and typing.

549 Materia Medica **3 credit hours**

The various classes of commonly used drugs and their effects on the human body. The administration of medicines and the uses of antiseptics and disinfectants.

550 Bacteriology **4 credit hours**

Fundamentals of bacteriology (microbiology) and related microorganisms and their relation to industry and disease. Laboratory work in the techniques of sterilization, cultivation, and identification of bacteria, yeasts and molds. A microscopic study of parasites of medical interest.

551 Bacteriology **4 credit hours**

Lectures and laboratory work on bacterial physiology, important groups of bacteria, and common organisms of air, water, milk, and soil.

Courses of Instruction: Medical Office Ass't.

555 Office Procedure **2 credit hours**

Some of the practical office procedures used in a physician's office, such as the use of the telephone, sterilization of instruments and gloves, the keeping and filing of patients' records, the general care of the office. Professional ethics.

556 Office Practice **2 credit hours**

Basic training in the operation of various types of adding machines, dictating and transcribing equipment. Stencil and spirit duplicating. Experience at alphabetic, numeric, and subject filing.

557 Office Practice and Accounting **2 credit hours**

Practical use of medical forms used by insurance, workmen's compensation and welfare departments. Practical set of physicians' records.

558 Business Law **2 credit hours**

A basic understanding of our courts, legal procedures, and a working knowledge of legal procedures. Emphasis on the fundamental law of contracts and its application to sales, bailments, negotiable instruments, agency, insurance, and property.

582 First Aid **2 credit hours**

The fundamental principles of first aid as outlined by the Standard Red Cross course. Fundamentals of nutrition, including differences and requirements.

Courses of Instruction: Business Technology

601 Typewriting **2 credit hours**
602 Typewriting **2 credit hours**

A beginning sequence in touch typewriting to make the operator accurate, rhythmical and moderately rapid in the operation of the standard makes of office typewriters. Care of the machine, operation of the various parts. Business letters, simple tabulation, and the building of typewriting speed based on ten-minute tests.

603 Advanced Typewriting **3 credit hours**

Continuation of basic skill building with emphasis on speed and advanced problems. Rough drafts, technical data such as specifications, manuscripts, legal papers. (Prerequisite, elementary typewriting or equivalent.)

604 Shorthand **3 credit hours**
605 Shorthand **3 credit hours**

A beginning course in the Gregg system, simplified. Basic principles and theory, some dictation being given at slow speeds.

606 Advanced Shorthand **3 credit hours**

A skill-building course founded upon basic theory which most students will have had in high school. Training in speed building, English grammar and punctuation, with dictation from various fields of business and industry. (Prerequisite, elementary shorthand or equivalent.)

607 Transcription **3 credit hours**

Development of skill in reading shorthand notes and producing from them a mailable manuscript on the typewriter. Persons not having had previous shorthand training will transcribe from dictating-transcribing machines.

608 Technical Shorthand **3 credit hours**
609 Technical Shorthand **3 credit hours**

Dictation of technical material to be transcribed on the typewriter. Further drives for speed of dictation. Building of the technical vocabulary found in chemical, electrical, mechanical, civil engineering. Use of specifications, contracts, and letters from these fields and the building construction industry. Use of standard secretarial references and dictionaries.

Courses of Instruction: Business Technology

610 Business Mathematics **3 credit hours**
611 Business Mathematics **3 credit hours**

Fundamental mathematical combinations and processes; the purpose and use of shortcut operations; simple and compound interest; bank, cash and trade discounts, mark-ups and percentage. Logarithms and the use of the slide rule. Verbal problems, simple equations, graphical representation, basic statistics.

615 Business Statistics **3 credit hours**

A course designed to acquaint students with the concepts and mechanics of basic statistical methods applicable to problems of business and economics.

620 Science **3 credit hours**

A general survey of the physical sciences. The significance of science in relation to modern living. The methods of science.

621 Elements of Technology **3 credit hours**
622 Elements of Technology **3 credit hours**

The fundamental laws and theories of chemical, electrical, and mechanical technology. Lectures, readings, and practice material to provide a background of technical terminology. (Prerequisite, science.)

624 Shop **2 credit hours**
625 Shop **2 credit hours**

Observation and discussion of the machines and materials used in industry to produce machines, appliances, containers, etc. Practice in processing metals, leading to acquaintance with technical and shop terms and an appreciation of what is done in machine shops.

630 Mechanical Drawing **1 credit hour**

Technical sketching and pictorial representation. Application of auxiliary views, sections, and conventions used in orthographic projection. Types and presentation of threads, nuts, bolts, keys, keyways and locking devices, and assembly drawings. Discussion of shop processes and procedures to facilitate the understanding of drafting problems which arise in the industrial drafting room. Lay-out of work areas from building plans.

640 Accounting **3 credit hours**

The basic principles of accounting from the books of original entry to the preparation of financial statements.

Courses of Instruction: Business Technology

641 Accounting **3 credit hours**

Advanced accounting with emphasis on controlling accounts, subsidiary ledgers, partnerships, corporations, the voucher system, manufacturing accounting, and the interpretation of financial statements.

642 Accounting **3 credit hours**

Columnar journals, partnerships, corporations, voucher system, analysis and interpretation of financial statements. Intensive work on a practice set taken from the field.

643 Cost Accounting **3 credit hours**

644 Cost Accounting **3 credit hours**

Nature and purposes of cost accounting; accounting for direct labor, materials, factory burden; job cost, process cost, and standard cost principles and procedures; selling and distribution costs; budgets; executive use of cost figures; lectures and problems. Practice sets based upon different methods of costing. (Prerequisite, Accounting 640, 641, 642.)

645 Principles of Machine Accounting **3 credit hours**

The applications of various types of machines to accounting, statistical and payroll work, based on a thorough mastery of the principles of double entry accounting. Acquaintance with punched card, electric and keyboard-operated systems. Use of visual aids, and visits to local installations of these different types of equipment.

646 Advanced Machine Accounting **3 credit hours**

Further application of the principles of machine accounting. Where practicable, experience at observing and performing machine operations.

647 Tabulating Machine Wiring **3 credit hours**

A study and practice of control panel wiring for tabulating accounting equipment. (Prerequisite, Principles of Machine Accounting 645.)

648 Survey of Business **3 credit hours**

A fundamental course dealing with the history and development of business and industry from ancient times to the present day. An appreciation of the activities of business organization, and a view of some of the problems which business and industry must solve routinely.

Courses of Instruction: Business Technology

650 Salesmanship **3 credit hours**

The basic principles of sales and services with practical applications of the principles. Prospecting, product and service analysis, meeting objections, demonstrating, sales psychology, and preparation of sales presentations.

651 Sales Management **3 credit hours**

Development of techniques of control in the administration of sales forces. Incentive systems, territory planning, development of sales potentials, and personnel problems peculiar to this field.

652 Finance **3 credit hours**

Financial principles and procedures. Detailed analyses of such factors as forms of business organization, corporate organization and problems, financial structure of business groups, financial instruments, surplus and reserves, credit and collections, and reorganizations.

654 Payroll and Social Security **3 credit hours**

A comprehensive coverage of the legislation behind and practical application of accounting for social security and tax withholding from the standpoint of the employer.

656 Office Practice **4 credit hours**

657 Office Practice **4 credit hours**

(a) Office Procedure. By means of a hypothetical business concern, students are rotated to the positions of office manager, receptionist, secretary, file clerk, and duplicating clerk. Emphasis on good grooming, desirable work attitudes, and business ethics. Techniques of telephone procedure, duplicating, switchboard operation. Use of standard secretarial office textbook as the basis of discussions and assignments.

(b) Office Machines. Basic training in the operation of transcribing machines, four principal types of adding-calculating machines, electric typewriters. Fundamentals of filing covering the following areas: alphabetic, geographic, subject, numeric. Projects for advanced study and skill development.

658 Business Law **3 credit hours**

The basic principles of contracts, involving the requisites for valid contracts, parties to the contracts, offer and acceptance, performance and discharge. Applications of contracts to agency. The legal aspects of partnerships and corporations, real estate law.

Courses of Instruction: Business Technology

659 Business Law **3 credit hours**

A continuation of the study of contracts as applied to sales, bailments, carriers, warehousemen. Negotiable instruments, the rights and obligations associated with them. Survey of bankruptcy.

660 Federal Tax **3 credit hours**

Study of the provision of the Internal Revenue Act. Preparation of individual returns. Survey of the preparation of corporation and partnership returns.

661 Office Management **3 credit hours**
662 Office Management **3 credit hours**

A comprehensive course correlating and integrating all phases of the science of office management including cost control, work simplification, forms control, office service, office layout.

664 Marketing **3 credit hours**

A discussion of the distributive phase of economics, from the time a good or service is produced up to the point of consumption; marketing functions; classification of goods and of markets; marketing channels and agents in each; relationship to advertising and sales promotion; salesmanship; regulations and laws affecting marketing; lectures, discussions, case problems.

666 Principles of Credit **3 credit hours**

A basic course covering a working knowledge of credits and collections, types of credit, credit department organization, credit reports and information, credit risk factors, collection procedures.

667 Advertising Principles **3 credit hours**
668 Advertising Principles **3 credit hours**

Development, economics, and functions of this phase of business; cost and application of various media; advertising as a vocation; testing and research utilization; some work on preparation of copy and layouts; lectures, demonstrations, field trips.

669 Internal Auditing **3 credit hours**

The theory and practice of auditing funds and accounts within corporations and other firms. No work in public auditing will be included. Preparation of reports. (Prerequisite, Accounting 640, 641, and 642.)

673 Market Research **3 credit hours**

Methods of collecting and interpreting marketing information, and specific applications to problems in market development, market potential, and sales management.

675 Business English **3 credit hours**

An application of the art of communication to the business world. Composition and dictation of business correspondence. Preparation of reports, articles; planning and presentation of speeches.

691 Personnel Administration **3 credit hours**

The nature and functions of personnel administration; techniques and methods used to achieve utilization of manpower in business through proper selection, placement, training, job evaluation, wage setting and employee relations.

695 Industrial Organization and Management **3 credit hours**

Introduction to the major functions or departments of industry, their interrelationship, and how they are brought together through organization. The preliminary phases of methods, cost, production control, product development, finance, physical facilities, quality control, plant engineering, industrial relations, job evaluation, sales advertising, budgets, records.

Courses of Instruction: Dental Hygiene

700 Dental Manikin Practice **2 credit hours**
701 Dental Manikin Practice **2 credit hours**

The proper prophylactic techniques on manikin heads with articulated teeth. The removal of stain and simulated calculus from exposed surfaces of the teeth, use of the porte polisher and dental engine, mouth examination and charting.

703 Oral Hygiene **2 credit hours**
704 Oral Hygiene **4 credit hours**
705 Oral Hygiene **4 credit hours**
706 Oral Hygiene **4 credit hours**

The prophylactic technique applied to actual work on patients. Performing prophylaxis on children and adults, mouth examination and charting, topical applications, taking, processing, and mounting X-ray films; sterilization techniques, caring for dental equipment.

710 Mathematics **3 credit hours**

Review of fundamental operations with applications of decimal fractions, common fractions, percentage, and proportion. Metric and apothecaries measures of weight and volume. Equivalent measures in household, metric, and apothecaries systems. Mathematics involved in the preparation of solutions and dosages.

723 Chemistry **4 credit hours**

The basic principles of chemistry with applications to meet the needs of the dental hygienist. The structure, properties, and functioning of the various organic compounds with which the student comes in contact in pharmacology and which should be known in order to understand metabolism and other phases of biochemistry. Lectures, demonstrations, and recitations.

728 Bacteriology **4 credit hours**

The fundamentals of general and medical microbiology and the basic phases of immunology. Methods of sterilization and disinfection, staining and examining of bacteria, and the methods employed in the separation of the species and their isolation and identification. Special attention to the flora of the oral cavity and the relation of bacteriological knowledge to the prevention of disease.

Courses of Instruction: Dental Hygiene

740 Dental Anatomy **4 credit hours**
741 Dental Anatomy **1 credit hour**
742 Dental Anatomy **1 credit hour**

Lectures on dental nomenclature, growth and development of teeth, fundamentals of individual tooth form and function, the supporting structures of the oral cavity. A detailed study of bones, nerves, and muscles of the head. Laboratory experience including drawing and carving each tooth in one quadrant of the maxillary arch and the lower first molar; pouring models of the permanent and deciduous dentition. Term projects.

744 Preventive Dentistry **3 credit hours**

Lectures covering the principles of brushing, various methods of first aid in dentistry, descriptions of normal mouth conditions, known causes of decay, and methods of preventing tissue degeneration and oral infections.

746 Histology and Embryology **3 credit hours**

The origin and structure of the tissues of the oral cavity. Laboratory work covering the use of the microscope, examination of microscopic slides of tissues, and drawing of these tissues complete with labels.

748 Gross Anatomy and Physiology **3 credit hours**
749 Gross Anatomy and Physiology **3 credit hours**

The structure and function of the body as an integrated whole. An overview of skeletal, muscular, circulatory, respiratory, digestive, and nervous systems. Vocabulary building.

Courses of Instruction: Dental Hygiene

750 Hygiene **2 credit hours**

The various factors (physical, social, psychological) which affect the total health status of the individual, and the effective application of sound health principles in solving health problems.

751 Pharmacology **2 credit hours**

The derivation, preparation, dosage, properties, and effects of drug groups with special emphasis on those drugs used in dentistry. The fundamentals of prescription writing.

753 Radiology **3 credit hours**

The technique of operation of the dental X-ray machine. The taking and uses of intra- and extra-oral films. Development and mounting of dental roentgenograms.

754 Pathology **3 credit hours**

The basic fundamentals of pathology with special emphasis on the tissues of the oral cavity.

756 Typing **1 credit hour**

All dental hygiene students take a screening test prior to this course and those who pass are exempt. The complete keyboard, personal and business letters, simple tabulation, and monthly statements.

758 Dental Office Practice **3 credit hours**
759 Dental Office Practice **3 credit hours**

Preparation for practical office assistance covering all phases of the functioning of a dental office. Personality training, reception of patients, use of telephone, typing, caring of dental equipment and instruments, inventory and ordering of supplies, recall system, billing, filing.

Courses of Instruction: Dental Hygiene

760 Dental Laboratory Practice **3 credit hours**

The laboratory phases of a dental office. Materials used in dentistry, the making of casts from impressions, selection of artificial teeth for various age groups, casting technique, gum carvings, and esthetic setups of teeth on dentures.

761 Nutrition **2 credit hours**

Principles of nutrition; the roles and sources of the various food groups, the variables that influence nutritional needs, relationship between nutrition and health and disease with emphasis on the correlation between diet and teeth.

764 School Oragnization **3 credit hours**

The school program in terms of organization, administration, finance, personnel, school laws and regulations, teacher organizations, and their interrelationships and implications.

781 Public Health **2 credit hours**

An overall picture of public health (history, philosophy, structure, services) with emphasis on community dental health. Field trips to various health agencies.

783 Dental Health Education **3 credit hours**

The basic laws and principles of learning and their application to the various methods that may be used in teaching dental health, evaluation and demonstration of the use of materials available as teaching aids, experience in the use of methods and materials in specific teaching situations.

785 Health Services in Schools **3 credit hours**

The place and function of health services in public education, laws and regulations which apply to health services in schools, factors which influence the health status of the child in the school environment, the coordination of school and community health services.

EXTENSION DIVISION

PRE-TECHNICAL PROGRAM

STATE UNIVERSITY OF NEW YORK

EXTENSION DIVISION

The Extension Division of the college offers both sequential programs and unit courses on a part-time basis to employed persons. Its purpose is to provide opportunity for adults of the community to extend their education in specialized fields.

The sequential programs consist of accredited college-level curriculums in the fields of Chemical, Electrical, Mechanical, Business, and Production Management Technology. The Extension Diploma is awarded to those who successfully complete the required curriculums, which consist of approximately thirty-two semester hours. It is expected that the average student can complete these curriculums in three and one-half to four years on the basis of attending classes two evenings a week during each of the two semesters per year.

Applicants for the diploma programs must be high school graduates.The New York State Equivalency Diploma is accepted in lieu of the regular high school diploma. It is also necessary for the student to demonstrate ability to participate in college level classes and to possess any special abilities required for the curriculum for which he is applying.

The Extension Division also offers shorter programs and unit courses in Insurance, Real Estate Law, and other areas where there is an expressed need and where the college can furnish the necessary facilities. Admission requirements for these courses are dependent on each individual course as outlined in the Extension Division announcement.

The cost of tuition, books and supplies for a student taking a typical diploma program is approximately $100.00 per year (two terms). Most programs are approved by the Veterans Administration. Applicants wishing to obtain veteran's educational benefits should consult their nearest veterans' agency.

A separate catalog is printed outlining Extension Division programs and costs. For further information or announcement of courses, consult the Director of Extension, Broome Technical Community College.

PRE-TECHNICAL PROGRAM

(Extension Division)

College officials are increasingly aware that a large number of high school graduates with average or better inherent ability have failed to properly prepare themselves for continuation of their education. As a community college, Broome Tech feels an obligation to give such young people a better foundation for higher education in a one-year Pre-Technical program offered through the Extension Division.

Observation and experience indicate that they are weak in the following fields, regardless of their vocational interest:

1. Reading—speed and comprehension
2. Writing—grammar, spelling
3. Mathematics—lack of practice in the use of even simple arithmetic and algebra
4. Basic sciences—physics, chemistry

The curriculum is designed to strengthen the students' background in these areas so that they may enter the full-time day program with a better expectation of successful accomplishment. Certificates of completion are issued to all students after three terms of satisfactory work.

Students are admitted to the program on the basis of general intelligence and vocational interest tests, rather than on high school academic record. The Pre-Technical program, offered in the college atmosphere and with the performance of the regular students as a stimulus, should provide for many young people the foundation to develop their potential in a full academic curriculum.

Tuition and fees for this program are the same as for the other full-time day programs at the College. Refunds of fees and tuition in case of withdrawal are outlined in a special addendum to this catalog and may be obtained from the Director of Extension upon request.

CURRICULUM OUTLINE

Pre-Technical

TERM 1

(Fall Term)

8068 English

8010 Elements of Technical Mathematics

8020 Elements of Technical Physics

8024 Elements of Chemistry

8430 Drawing

TERM 2

(Winter Term)

8069 English

8011 Elements of Technical Mathematics

8021 Elements of Technical Physics

8025 Elements of Chemistry

8431 Drawing

TERM 3

(Spring Term)

8070 English

8012 Elements of Technical Mathematics

8022 Elements of Technical Physics

8026 Elements of Chemistry

8400 Shop

Courses of Instruction: Pre-Technical

Elements of Technical Mathematics (8010, 8011, 8012)

A three-term sequence of courses covering the following fields of work: arithmetic and the use of the slide rule in the solution of problems commonly encountered in scientific fields, algebra through quadratic equations, logarithms, trigonometry. Recitations and supervised study.

Elements of Technical Physics (8020, 8021, 8022)

Basic physics including the introduction to mechanics, heat, sound, electricity, and light, as well as the study of properties of matter. Related laboratory work.

Elements of Chemistry (8024, 8025, 8026)

A first program in chemistry, stressing basic principles and theories which will enable the student to meet the science entrance requirements of the college.

Drawing (8430, 8431)

See Engineering Drawing (430, 431) under Mechanical Technology.

Shop (8400)

See Shop (400) under Mechanical Technology.

English (8068, 8069, 8070)

A three-term sequence of courses designed to improve the student's mastery of language. Concentration on grammar, spelling, punctuation, and the organization of ideas for effective expository writing. Development of reading skills: speed, comprehension, vocabulary building.

STATE UNIVERSITY OF NEW YORK

LIBERAL ARTS COLLEGE

Harpur College at Endicott

MEDICAL COLLEGES

State University Downstate Medical Center in New York City
State University Upstate Medical Center in Syracuse

TEACHERS COLLEGES

State University College for Teachers at Albany
State University Teachers College at Brockport
State University College for Teachers at Buffalo
State University Teachers College at Cortland
State University Teachers College at Fredonia
State University Teachers College at Geneseo
State University Teachers College at New Paltz
State University Teachers College at Oneonta
State University Teachers College at Oswego
State University College on Long Island at Oyster Bay
State University Teachers College at Plattsburgh
State University Teachers College at Potsdam

OTHER PROFESSIONAL COLLEGES

State University College of Forestry at Syracuse University
State University Maritime College at Fort Schuyler
State University College of Ceramics at Alfred University
New York State College of Agriculture at Cornell University
New York State College of Home Economics at Cornell University
New York State School of Industrial and Labor Relations at Cornell University
New York State Veterinary College at Cornell University

AGRICULTURE AND TECHNICAL INSTITUTES

State University Agricultural and Technical Institute at Alfred
State University Agricultural and Technical Institute at Canton
State University Agricultural and Technical Institute at Cobleskill
State University Agricultural and Technical Institute at Delhi
State University Agricultural and Technical Institute at Farmingdale
State University Agricultural and Technical Institute at Morrisville

COMMUNITY COLLEGES

(Locally-sponsored two-year colleges under the program of State University)

Auburn Community College at Auburn
Bronx Community College at New York City
Broome Technical Community College at Binghamton
Corning Community College at Corning
Dutchess Community College at Poughkeepsie
Erie County Technical Institute at Buffalo
Fashion Institute of Technology at New York City
Hudson Valley Technical Institute at Troy
Jamestown Community College at Jamestown
Mohawk Valley Technical Institute at Utica
New York City Community College of Applied Arts and Sciences
Orange County Community College at Middletown
Staten Island Community College at Staten Island
Westchester Community College at White Plains